

REMARKS

Claims 1, 4, 19, 20 and 23 to 26 are all the claims pending in the application, prior to the present Amendment.

The Examiner has set forth four rejections of the claims over prior art, with each rejection being based on US 6,410,640 to Fukunaga et al as a primary reference.

The four rejections are as follows:

Claims 1, 20 and 24-25 have been rejected under 35 U.S.C. 102(b) as being anticipated by Fukunaga et al (US 6,410,640) as evidenced by Singh (US 4,960,844), and optionally as evidenced by newly cited Haddick et al (US 3,661,885).

Claim 19 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Fukunaga et al as evidenced by Singh and in view of Emmerling et al (US 5,554,709).

Claims 4 and 26 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Fukunaga et al as evidenced by Singh, and in view of Suzuki et al (EP 538 881) and Okamoto et al (WO 03 011978), optionally as evidenced by Haddick et al (US 3,661,885).

Claim 23 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Fukunaga et al as evidenced by Singh, and in view of Suzuki et al and Okamoto et al as applied to Claim 4 above, and further in view of Emmerling et al.

Applicants submit that the cited prior art does not disclose or render obvious the presently claimed invention and, accordingly, request withdrawal of these rejections.

Applicants have amended claims 1 and 4, which are the only independent claims in the application, to recite that the plasticizer in the composition of the present invention is phthalate.

Support for amended claims 1 and 4 can be found in the paragraph at page 52, line 14 to page 53, line 4 and the Examples of the present specification.

Applicants have also added new claims 27 to 30. Support for new claims 27 and 20 can be found in the Examples of the present specification. Support for new claims 29 and 30 can be found in the paragraph at page 8, line 21 to page 9, line 15 and the Examples of the present specification.

The curable composition of the present invention (claim 1 or claim 4) has a technical feature in that the composition contains the following components.

That is, the curable composition of the present invention contains:

(A) a polyoxyalkylene polymer which has on average 1.1 to 5 groups per one molecule thereof represented by the general formula (1) and has a silicon-containing functional group;

(B) a tin carboxylate or a carboxylic acid in which the carbon atom adjacent to the carbonyl group is a quaternary carbon atom; and

a phthalate plasticizer.

The curable composition can achieve an excellent effect of providing both high curability and heat resistance although a nonorganotin catalyst is used.

Meanwhile, as set forth above, the Examiner has stated that claim 1 is anticipated by Fukunaga et al as evidenced by Singh and optionally as evidenced by Haddick et al, and that claim 4 is obvious over Fukunaga et al as evidenced by Singh, and in view of Suzuki et al and Okamoto et al, optionally as evidenced by Haddick et al.

However, the curable composition disclosed by Fukunaga et al is a curable resin composition that contains

- (a) an organic polymer having at least one reactive silicon group per molecule;
- (b) a silane coupling agent having reactive silicon group in its molecule;
- (c) a non-phthalate plasticizer having no phthalate structure in its molecule; and

(d) a stannous curing catalyst.

As can be seen from the above, the plasticizer contained in the curable composition of Fukunaga et al is a non-phthalate plasticizer, that is, Fukunaga et al do not disclose a curable composition containing a “phthalate plasticizer” as a plasticizer as set forth in claims 1 and 4 of the present application.

Also, none of Singh, Haddick et al, Suzuki et al, and Okamoto et al discloses a curable composition having the technical features of the present invention.

The curable composition of the present invention achieves an unexpected effect that the curable composition shows a higher curing rate when containing a phthalate plasticizer (e.g., DTDPP plasticizer) as a plasticizer than when containing a non-phthalate plasticizer (e.g., PPG plasticizer). This is apparent from the results of the experiments described in a Declaration Under 37 C.F.R. § 1.132 that is enclosed herewith.

Accordingly, applicants submit that the inventions according to claims 1 and 4 are not anticipated by the cited references and are not obvious from the cited references.

Applicants also refer the Examiner to the Amendment Under 37 C.F.R. § 1.114(c) and Declaration Under 37 C.F.R. § 1.132 filed on May 26, 2009 and the Response filed on December 29, 2008, as well as the Declaration Under 37 C.F.R. § 1.132 filed with the Amendment Under 37 C.F.R. § 1.111 on March 1, 2010.

Applicants point out that the above specific combination of components (the components (A), (B), and a phthalate plasticizer) enables the curable composition of the present invention to achieve an excellent effect of “providing both high curability and heat resistance although a non-organotin catalyst is used,” which could not have been expected by a person of ordinary skill in the art.

As applicants have previously explained in the Amendment Under 37 C.F.R. § 1.114(c) filed on May 26, 2009, the present invention provides a curable composition capable of giving a cured article excellent in heat resistance and curability. As applicants have previously discussed, in a conventional curable composition comprising a hydrolyzable silyl group-containing organic polymer which has an amide bond, a curable composition providing a rapid curing rate and excellent heat resistance simultaneously is not known.

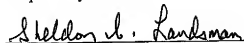
On the other hand, the present inventors found that heat resistance is improved when a tin carboxylate or the carboxylic acid having a low activity for forming urethane bond is used as the catalyst, and further found that a silanol-condensable activity is increased when the tin carboxylate or the carboxylic acid having a specific molecular architecture about the carbon atom adjacent to the carbonyl group is used as the catalyst. As a result, the present inventors achieved the present invention having a rapid curing rate and excellent heat resistance simultaneously.

In view of the above, applicants submit that the present claims are patentable over the cited prior art and, accordingly, request withdrawal of each of the prior art rejections.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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Respectfully submitted,



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